

Suntrek's Solar Pool Heating Installation Guide

*Congratulations! You are installing a solar heating system that will give you many years of comfortable warm pool water. **Suntrek** solar collectors are made of extremely durable material and will require a minimum of care on your part. Please read all of the instructions and observe a few simple operating cautions to obtain peak performance and maximum life from your **Suntrek** System.*

Designing your Solar System:

1. Measure your pool. Multiply the average length by the average width of your pool to determine the total surface area of your pool. For example, if your pool is 20 ft. x 30 ft this equals a 600 sq. ft pool.

2. Calculate solar coverage. For every square ft. of pool surface area, you need at least 50% in solar square footage. This is a suggested *minimum* size based on typical heating performance and past customer satisfaction. Larger solar systems can be used to gain even higher temperatures and longer swim seasons. For most applications 80% coverage is *optimum* for comfortable swimming temperatures and a maximum swim season.

3. Consider all possible locations for installing your solar collectors.

You can use any sloped roof that does not face to the north. The most effective orientations are towards the south, west, east and flat. You can mount the collector on any roof or patio cover. You can put the collector on more than one roof area to gain the desired total square footage. A new structure can be built specifically to accommodate the solar heater. (I.e. a patio cover or a ground mounted rack.) Check for shading of the solar heater location. Direct sunshine hitting the collectors is what produces heat for the pool. Even on a very hot day, a solar heater won't warm the water if it is shaded. Trees may need to be trimmed or cut.



4. Measure the roof. One of the greatest advantages of **Suntrek** collectors are their versatility. Obstacles such as vent pipes can be wrapped around easily. Collectors can also be ordered to any length to maximize your square footage on a small or oddly shaped roof.

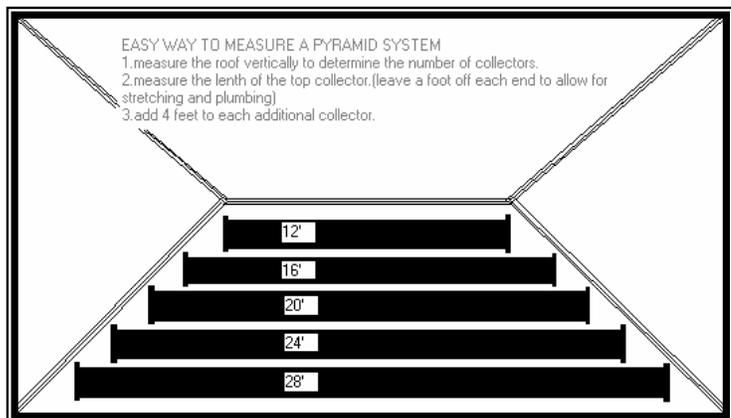
We suggest drawing a diagram of the roof, with all measurements top-to-bottom and side-to-side. Decide on how many collectors will fit on the desired area. Each manifold will require 28 inches of vertical roof space. For example, if you have a roof that is 180 inches from top-to-bottom, you can install six collectors (6 X 28"=168"). We advise leaving at least 12" of roof space at the top and bottom of the solar collectors for the plumbing.

Make a decision about the length of the solar collectors. The length of the collectors can be as long as 50 feet. Keep in mind that the collectors weigh 1 lb. per square foot, so a 2' x 50' collector will weigh about 100 lbs. This can be a difficult factor when carrying up a ladder or across a tile roof.

While it is easier to install a square system, with all collectors the same size, it is better to stagger or pyramid the system in order to keep the system entirely on the same area of the roof. This is also the best method for maximizing your total surface area.



Connecting the headers of a staggered system.



5. Steep Roofs. Structures with a steep pitch can pose additional challenges for a solar installation. Collectors should be installed vertically.

Measure along the top ridgeline to determine the number of collectors to be installed. Next, measure from the top ridgeline to the bottom edge (allowing room for straps and plumbing) to determine the length of the collectors.

Note. Running the collectors close to the top and bottom allow you to make the bottom connections from a ladder rather than standing on the edge of a steep roof.



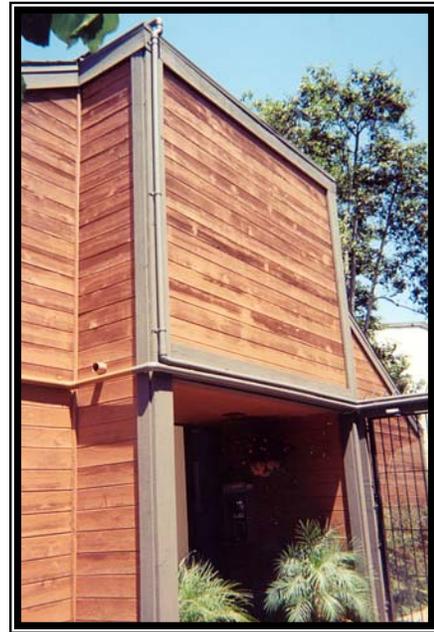
Important! Working on roofs with severe pitches is a dangerous job and should be done by an experienced professional with a competent helper.

6. Plumbing. Consider the routing for the two 2" PVC pipes that will transport the water back and forth between the pool equipment area and the solar heater. There is usually more than one way to accomplish this. If the pool equipment is not right next to the structure where the solar heater will be installed, the feed/return pipes are typically buried underground.

Important: The solar heater should be plumbed so that the water in the solar collectors can gravity drain back to the pool every day once the filter pump has turned off. This can usually be accomplished by running the feed pipe (if not both pipes) up to the lowest part of the system.



This iron fence was modified to accommodate our solar piping along the top.



Matching paint can do wonders for camouflaging your pipe run.



Flexible PVC was used to hide the pipes behind this brick archway.



7. Tools and Equipment needed:

1. Sturdy ladder
2. Power drill
3. Tape measure
4. Calking gun
5. Tube of roofing mastic (Henry #208 is best.)
6. PVC primer and glue
7. 2" PVC Saw or hacksaw
8. 2" PVC pipe and fittings
9. Torpedo level
10. Sharp razor knife
11. 5/16" and 7/16" nut drivers
12. 1/4" masonry drill bit
13. Teflon tape
14. 1/4" Galvanized lag bolts (1 1/2" to 3" in length, depending on roof type)
15. #10-12 plastic anchors for lag bolts,
16. Flat black spray paint
17. Paint to match house color.

Note: It is assumed that you are familiar with cutting and gluing PVC pipe. If not, we recommend getting instructions from your pool supply center. It is not difficult, but a little experience helps.

*If you plan to install these for a living I strongly suggest investing in a good cordless hammer drill and a pair of 2" PVC cutters.

For assistance in sizing or ordering, The **Suntrek FREE HELP LINE** is:

1-800-2-WARM-IT

(Pacific Time business hours)

For assistance outside the USA, please use our e-mail at **suntrekind@earthlink.net**